

Abstract

Title: "Scanning Apparatus"

Scanning apparatus operable in the microwave, mm-wave and infrared ranges and comprises a hollow polygonal primary drum which is mounted for rotation about a central axis. The primary drum provides a plurality of internally presented sides or facets, which are capable of reflecting the microwave, mm-wave and infrared radiation concerned. A fixed Mangin mirror mounted within the primary drum directs such radiation emanating from a view of view of the apparatus, onto the internally presented sides or facets of the primary drum, such that in each of a succession of line scanning periods, radiation emanating from the field of view is directed onto a reflective side or facet of the primary drum to be reflected therefrom onto a further receiving assembly comprising a rotating faceted reflector, in the form of a secondary drum. The secondary drum is arranged to reflect the radiation striking it from the first drum to focus onto a radiation receiver or sensor. The secondary drum is arranged to be rotated, about an axis parallel with the rotary axis of the primary drum, in synchronism with the latter, in such a way that, over each line scanning period, radiation from substantially all of the respective facet of the primary drum can reach said receiver or sensor via said secondary drum. The invention provides a simply constructed robust and yet relatively inexpensive apparatus for forming images in the radiation concerned.